

What is claimed is:

1. A composition for use in a ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising:
 - (a) about 55 % to 72 % ceramic particles;
 - (b) about 1 % to 3 % plasticizers; and
 - (c) about 20 % to 26% silica-yielding liquids; andsufficient solvent to permit mixing of the components and forming a pliable composition.
2. The composition of claim 1 wherein the ceramic particles are selected from the group consisting of alumina, crushed CMCs, calcined clays, grog and combination thereof.
3. The composition of claim 1 wherein the ceramic particles range in size from about -20 mesh to about +50 mesh.
4. The composition of claim 1 wherein the plasticizers are organic compounds.
5. The composition of claim 1 wherein the silica-yielding liquids are non-curing silicones.
6. The composition of claim 1 wherein the weight percentage of evaporable solvents is from about 2 % to about 10 % of the weight of the composition.
7. The composition of claim 1 wherein the pliable composition is substantially cohesive.
8. The composition of claim 1 wherein the pliable composition is of uniform consistency.
9. The composition of claim 1 wherein the evaporable solvent is an alcohol.
10. The composition of claim 9 wherein the evaporable solvent is isopropanol or ethanol.

11. A ceramic composite stiffener comprising:

a web portion;

at least one flange portion;

a radius region disposed between the web portion and the at least one flange portion;

a skin member secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising:

(a) about 55 % to 72 % ceramic particles;

(b) about 1 % to 3 % plasticizers; and

(c) about 20 % to 26% silica-yielding liquids; and

sufficient solvent to permit mixing of the components and forming a pliable composition.

12. A method for fabricating an improved ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the steps comprising:

preparing a pliable composition comprising ceramic particles, plasticizers, and silica-yielding liquids, and sufficient solvent for mixing of the components to form the pliable composition;

applying the composition along the radius region adjacent the skin member prior to assembling the skin member;

drying the composition;

autoclaving the stiffener; and

sintering the stiffener.

13. The method of claim 12 wherein the step of sintering the stiffener includes sintering the stiffener at about 1,800°F.

14. The method of claim 12 further including an additional step, after the step of drying the composition, of debulking the stiffener.
15. The method of claim 12 wherein the step of preparing the composition comprises adding the ceramic particles to a solution containing a mixture of plasticizers, silica-yielding liquids and solvents to form the pliable composition.
16. The method of claim 12 wherein the pliable composition is a putty-like composition.
17. The method of claim 12 wherein the pliable composition is substantially cohesive.
18. The method of claim 12 wherein the pliable composition is of uniform consistency.
19. A method for fabricating an improved ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the steps comprising:
 - preparing a pliable, putty-like, substantially cohesive composition comprising ceramic particles, plasticizers, and silica-yielding liquids, and sufficient solvent to permit mixing of the components and forming the pliable composition;
 - applying the composition along the radius region adjacent the skin member prior to assembling the skin member;
 - drying the composition;
 - debulking the stiffener;
 - autoclaving the stiffener; and
 - sintering the stiffener.